

We claim:

1. A wireless transmit-only apparatus comprising:

- a controller having a transmission frequency selection output;
- a wireless transmitter having a phase locked loop, which phase locked loop is responsive to the transmission frequency selection output;

such that the wireless transmit-only apparatus can selectively transmit at a plurality of different frequencies as selected by the controller and effected, at least in part, by the phase locked loop.

2. The wireless transmit-only apparatus of claim 1 wherein the phase locked loop has a programmable divider input that operably couples to an oscillator.

3. The wireless transmit-only apparatus of claim 1 wherein the phase locked loop has a PLL control input that operably couples to a plurality of selectively switchable mechanically resonant devices.

4. The wireless transmit-only apparatus of claim 3 and further comprising a switch for each of the selectively switchable mechanically resonant devices, wherein each such switch is responsive to the transmission frequency selection output of the controller such that the controller can select a particular mechanically resonant device to use with the phase locked loop by controlling each of the switches.

5. The wireless transmit-only apparatus of claim 3 wherein at least one of the plurality of selectively switchable mechanically resonant devices comprises at least one of:

- a crystal resonator;
- a ceramic resonator; and
- a surface acoustic wave device.

6. The wireless transmit-only apparatus of claim 1 and further comprising a user interface comprising at least one independently assertable input and wherein the controller is operably responsive to the at least one independently assertable input.

7. The wireless transmit-only apparatus of claim 6 wherein the user interface comprises a plurality of independently assertable inputs and wherein the controller is operably responsive to the plurality of independently assertable inputs.
8. The wireless transmit-only apparatus of claim 7 wherein the phase locked loop has a PLL control input that operably couples to a plurality of selectively switchable mechanically resonant devices.
9. The wireless transmit-only apparatus of claim 8 and further comprising a memory operably coupled to the controller and containing a plurality of characterizing transmission parameters wherein at least some of the plurality of characterizing transmission parameters correspond to particular ones of the plurality of selectively switchable mechanically resonant devices.
10. The wireless transmit-only apparatus of claim 9 and further comprising correlation data that correlates at least one of the plurality of independently assertable inputs with a corresponding one of the plurality of characterizing transmission parameters that corresponds to a particular one of the plurality of selectively switchable mechanically resonant devices, such that assertion of a given one of the independently assertable inputs will result in selection of a particular corresponding one of the plurality of mechanically resonant devices for use when transmitting.
11. The wireless transmit-only apparatus of claim 1 wherein the controller comprises control means for selecting a particular output frequency, from a plurality of available output frequencies, that the phase locked loop will provide.
12. The wireless transmit-only apparatus of claim 11 wherein the control means is further for selecting a particular programmable divide value for the phase locked loop.
13. The wireless transmit-only apparatus of claim 11 wherein the control means is further for selecting a particular resonant circuit from amongst a plurality of candidate resonant circuits to couple to a set divide input of the phase locked loop.

14. The wireless transmit-only apparatus of claim 13 wherein the plurality of candidate resonant circuits comprise a plurality of mechanically resonant devices.

15. The wireless transmit-only apparatus of claim 14 wherein the plurality of mechanically resonant devices include at least one of:

- a crystal resonator;
- a ceramic resonator; and
- a surface acoustic wave device.

16. The wireless transmit-only apparatus of claim 13 wherein the plurality of candidate resonant circuits comprise a least one mechanically resonant device and at least one electrically resonant circuit.

17. A movable barrier operator remote control transmitter comprising:

- at least one assertable user input;
- a memory containing a plurality of remote control commands for a plurality of different movable barrier operators, wherein at least some of the remote control commands comprise a corresponding transmission frequency that is different from other of the remote control commands;
- correlation data that correlates the at least one assertable user input with a corresponding one of the plurality of remote control commands and hence with a corresponding transmission frequency;
- a controller that is operably coupled to the at least one assertable user input, the memory, and the correlation data and having a transmission frequency selection output;
- a wireless transmitter that is responsive to the transmission frequency selection output of the controller and having at least one selectively-variable output frequency phase locked loop.

18. The movable barrier operator remote control transmitter of claim 17 wherein the at least one assertable user input comprises a plurality of assertable user inputs.

19. The movable barrier operator remote control transmitter of claim 18 wherein the correlation data correlates each of the plurality of assertable user inputs with a corresponding one of the plurality of remote control commands and hence with a corresponding transmission frequency.

20. The movable barrier operator remote control transmitter of claim 19 wherein the at least one selectively-variable output frequency phase locked loop has a programmable divider value that is responsive to a control signal from the controller.

21. The movable barrier operator remote control transmitter of claim 19 wherein the at least one selectively-variable output frequency phase locked loop includes a PLL control input that is operably coupled to an oscillator having a plurality of switchably selectable resonant circuits.

22. The movable barrier operator remote control transmitter of claim 21 wherein the plurality of switchably selectable resonant circuits comprise switchably selectable mechanically resonant circuits.

23. The movable barrier operator remote control transmitter of claim 22 wherein the switchably selectable mechanically resonant circuits comprise at least one of:

- a crystal resonator;
- a ceramic resonator; and
- a surface acoustic wave device.

24. The movable barrier operator remote control transmitter of claim 19 wherein the at least one selectively-variable output frequency phase locked loop includes a PLL control input that is operably coupled to a plurality of switchably selectable oscillators.

25. The movable barrier operator remote control transmitter of claim 24 wherein at least one of the plurality of switchably selectable oscillators comprises a mechanically resonant device.

26. The movable barrier operator remote control transmitter of claim 25 wherein each of the plurality of switchably selectable oscillators comprises a mechanically resonant device.

27. The movable barrier operator remote control transmitter of claim 19 wherein the at least one selectively-variable output frequency phase locked loop includes a PLL control input that is operably coupled to mechanically resonant means for mechanically resonating at a plurality of selectable characteristic frequencies.

28. A method of selecting a transmission frequency for a transmit-only wireless apparatus, comprising:

- providing a transmitter having a phase locked loop that has a plurality of selectable output frequencies;
- selecting one of the plurality of selectable output frequencies to provide a selected frequency;
- using the selected frequency as the transmission frequency for the transmit-only wireless apparatus.

29. The method of claim 28 wherein providing a transmitter having a phase locked loop that has a plurality of selectable output frequencies comprises providing a transmitter having a phase locked loop having a programmable divider value.

30. The method of claim 28 wherein providing a transmitter having a phase locked loop that has a plurality of selectable output frequencies comprises providing a transmitter having a phase locked loop having a PLL control input.

31. The method of claim 30 wherein selecting one of the plurality of selectable output frequencies to provide a selected frequency comprises selecting one of a plurality of resonant elements to operably couple to the PLL control input.

32. The method of claim 31 wherein selecting one of a plurality of resonant elements comprises selecting one of a plurality of resonant elements that include at least one mechanically resonant element.

33. The method of claim 32 wherein selecting one of a plurality of resonant elements that include at least one mechanically resonant element comprises selecting one of a plurality of mechanically resonant elements.

34. The method of claim 30 wherein selecting one of the plurality of selectable output frequencies to provide a selected frequency comprises selecting one of a plurality of oscillators.

35. The method of claim 34 wherein selecting one of a plurality of oscillators comprises selecting one of a plurality of oscillators wherein each of the plurality of oscillators has a different mechanically resonant element.

36. The method of claim 28 and further comprising:

- providing at least one assertable input;

and wherein selecting one of the plurality of selectable output frequencies to provide a selected frequency comprises detecting assertion of the at least one assertable input and selecting one of the plurality of selectable output frequencies as a function, at least in part, of detecting assertion of the at least one assertable input.

37. The method of claim 36 wherein:

- providing at least one assertable input comprises providing a plurality of independently assertable user inputs; and

- detecting assertion of the at least one assertable input and selecting one of the plurality of selectable output frequencies as a function, at least in part, of detecting assertion of the at least one assertable user input comprises detecting assertion of one of the plurality of independently assertable input to provide a detected asserted input and selecting one of the plurality of selectable output frequencies as a function, at least in part, of the detected asserted input.